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AEGLA PEWENCHAE, A NEW SPECIES OF CENTRAL CHILEAN FRESHWATER DECAPOD (CRUSTACEA: ANOMURA: AEGLIDAE)

Carlos G. Jara

Abstract.—The description of *Aegla pewenchae,* a new species of freshwater anomuran crab from the Rapel, Maule, Itata, Bío Bío, Imperial, and Toltén river basins is given. Its diagnostic characters are: 1) rostrum long and narrow, styliform, scarcely troughed both sides of rostral carina; 2) anterolateral angles of carapace spiniform, slightly divergent; 3) marginal scales of rostrum and hepatic lobes minute; 4) orbital spine clearly defined, with a smaller second one some distance below; 5) anterolateral angle of first hepatic lobe spiniform; 6) branchial borders smooth; 7) palmar crest wide and thin, its border deeply serrate or microdenticulate; 8) chelipeds with dorsal surface of propodus densely covered by minute lens-like scales; 9) anterolateral angle of second abdominal epimeron spiniform. *Aegla pewenchae* resembles, to a certain extent, *A. rostrata* Jara, 1977, and *A. abtao* Schmitt, 1942a.

The zone between Angostura de Paine and Chillán, in central Chile, is one of the most ancient and densely populated zones because of the fertility of its soils, mild climate and abundance of streams and rivers that provide water for agricultural irrigation. *Aegla* has seldom been registered in these fluvial bodies. However, this seems to be related more to the difficulties in identifying the specimens collected than with low collection efforts (N. Bahamonde, pers. comm.).

Bahamonde & López (1963) reported the presence of *A. laevis talcahuano* Schmitt, 1942b, from seven localities between the Zamorano River (tributary of the Cachapoal-Rapel River system) and the Ñuble River in Chillán, as well as *A. concepcionensis* Schmitt, 1942a, from the Tronco River (Colchagua Province), and *A. maulensis* Bahamonde & López, 1963, from Laguna del Maule.

This paper describes a new species of *Aegla,* which was found almost continuously between the Colchagua Province in the north and the Cautín Province in the south. The specimens were collected during an eight-year period, while sampling the Andean or upper river stretches and the Coastal or lower river stretches, on both sides of the Chilean main longitudinal highway (Carretera 5) which crosses most of the river systems along continental Chile.

Aegla pewenchae, new species
Figs. 1, 2, 3

Type material.—Holotype: Instituto de Zoología, Universidad Austral de Chile, IZUA C-338, adult male collected in the Bío-Bío River, 16 km S of Los Angeles, under bridge of Carretera 5 (37°35′45″S, 72°16′30″W), Province of Bío-Bío, VIII Región, Chile, 21 Feb 1983, by C. G. Jara.

Allotype: IZUA C-338, adult female. Paratypes: IZUA C-338, 5 adult ♂♂ (P1 to P5) and 3 adult ♀♀ (P6 to P8). Same locality and date as holotype.

Diagnosis.—Carapace longer than wide; rostrum elongate, styliform; anterolateral angles of carapace acute, slightly divergent; scales on rostral and hepatic borders very small; orbital spine well developed, dorsal

to a second smaller one; anterolateral angle of first hepatic lobe spiniform; branchial borders smooth, noticeably arcuate; palmar crest laminar, expanded, its border microdenticulate to dentate; dorsum of propodus of chelae densely covered by minute lens-like scales; anterolateral angle of second abdominal epimeron sharply acute, spiniform.

Description of holotype.—Rostro-frontal end narrow, bound by slightly inflated anterolateral lobes scarcely distinct from protogastric prominences. Anterolateral lobe prolonged in conical acute spine, well separated from orbital spine, its apex reaching posterior border of cornea. Orbital spine small, slender, acute, recurved towards anterolateral angle; its length 1/3 to 1/4 length of anterolateral spine. Frontal width about half precervical width. Orbits wide, comparatively shallow, their depth about half their maximum width. Extraorbital sinus well defined, wide, slightly asymmetrical. Orbital margins with four or five minute well spaced scales.

Rostrum narrow, styliform, its width at level of posterior margin of orbits 2/3 its length. Cross-section of proximal half rhombic; distal half subcircular. Apex ending in acute conical scale. Rostral margins defined only on proximal half of rostrum. Rostral carina low, narrow, reaching midpoint of rostrum flanked by shallow troughs; its proximal end marked by pair of tiny pits between protogastric lobes; its dorsum with two rows of minute scales which merge into one, distally. Carina is replaced by irregular row of well spaced scales which increase in size distally, on distal half of rostrum.

Dorsum of precervical area uniformly convex; no marginal plateau on dorsum of hepatic lobes. Epigastric prominences scarcely distinguishable, except by 1 or 2 nodules bearing 5 to 8 minute apical scales. Protogastric lobes less prominent, marked by 7 (left) and 5 (right) apical scales in arquate row. Dorsum of carapace smooth, polished, slightly punctate. Margins of carapace, between anterolateral lobe and cervical groove, almost straight. Hepatic lobes well delimited by shallow furrows; all of them with one acute apical scale. Remaining margin with irregular row of small, unequal scales.

Dorsum of postcervical carapace markedly and uniformly convex. Sutures (lineae) fine, shallow. Cardiac area and areola wide; areola slightly inflated, its dorsum leveled with gastric area. Border of branchial areas smooth, narrowly marginated and slightly recurved, with irregular row of fine acuminate scales mingled with short stiff setae.

Dorsum of abdominal tergae slightly punctate; small tufts of fine short setae protrude from punctae; tufts thicker and more numerous on flanks of epimera. Anterolateral angle of second epimeron prolonged in short, stout, conical spine, its apex overreaching adjacent branchial border. Pleural angle of third and fourth epimera sharply acute. Telson cordiform, medially articulate. Ventral surface of fourth thoracic sternum flat, slightly convex; its frontal border straight at center and slightly concave near anterolateral angles abutting in short blunt cones.

Chelipeds robust, left largest. Chelae stout, ovoidal. Left propodus markedly convex, inflated over its proximal 2/3; right subtriangular. Dorsum of propodus with oblique, blunt, low ridge between carpus-propodus and propodus-dactylus joints, and parallel to base of palmar crest. Palmar crest subrectangular, slightly excavate, its border clearly denticulate, merging anteriorly into predactylar lobe. Right crest with 7 acute denticles, left with 6, becoming progressively more recurved towards proximal end of crest; right crest ends proximally in robust denticle partially separated from preceding ones by deep, wide notch. Postcrestal sinus deep, wide. Dorsum of chelae covered by tiny, blunt, conical scales that become larger toward distal end of both propodus and dactylus where they intermingle with bundles of short stiff setae. Dactylar lobe as

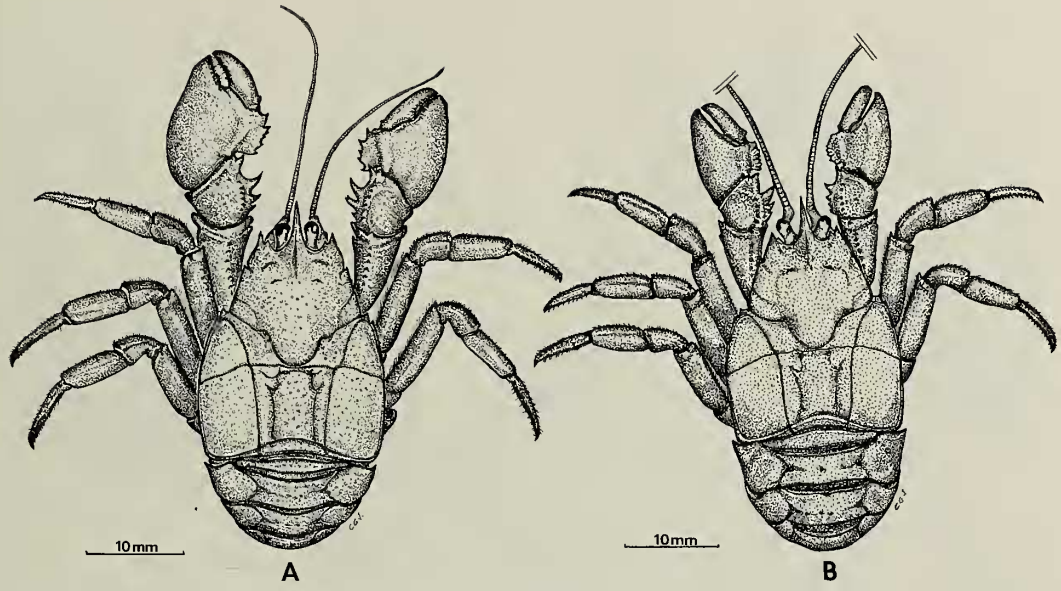

Fig. 1. *Aegla pewenchae,* new species. A, male holotype, dorsal view. B, female allotype.

low blunt tubercle with apical scale 2 or 3 times larger than those on surface of propodus. Ventral surface of chelae slightly punctate, convex, polished, without scales or setae except at propodus-dactylus joint. Dorsum of carpus globular, with field of minute conical scales over lateroexternal half. Internal border with 3 robust acute conical spines that decrease in size proximally; apex of second right spine bifid. Carpal lobe spiniform, separated from adjacent articular nodule by shallow furrow; separated from distalmost spine of carpal crest by wide sinus. Ridge along dorsum of carpus well marked, made up by 9 coalescent, little prominent, tubercles, each with 2 to 4 apical scales in oblique row. Lateroventral nodule of carpus-propodus joint with minute flattened conical scale and short setae. Ventral face of carpus gently convex, without spine. Distodorsal vertex of merus of chelipeds as spiniform tubercle crowned by 2 acute scales and some stiff short setae. Dorsal border of merus sharp, with row of spiniform cones decreasing in size proximally; distal cone twice size of subdistal; 10 (right) and 9 (left) cones; the five distalmost procumbent. Ventral borders smooth, ending in acute conical spine; inner one slightly curved; external border, next to merus-carpus articular node, with distally directed small acute cone. Ventral border of ischium slightly concave, with small tubercle crowned by conical scale and few stiff short setae at both ends. Distodorsal angle of merus of second and third pereiopods fringed by stiff short setae mingled with conical scales; 1 or 2 are central and prominent. Dorsal border of merus of second pereiopod fringed by long plumose setae; fringe absent on third pereiopod. Distal third of ventral median line of dactylus of second to fourth pereiopods with row of 3 to 7 acicular scales decreasing in size proximally.

Description of allotype.—Aside from the relatively larger abdomen and smaller chelae (secondary sexual characters), the allotype differs from the holotype in the following aspects: scales on dorsum of chelae larger, particularly over distal half of propodus and dactylus; tubercles on dorsal midline of carpus prominent, some spiniform; ventral

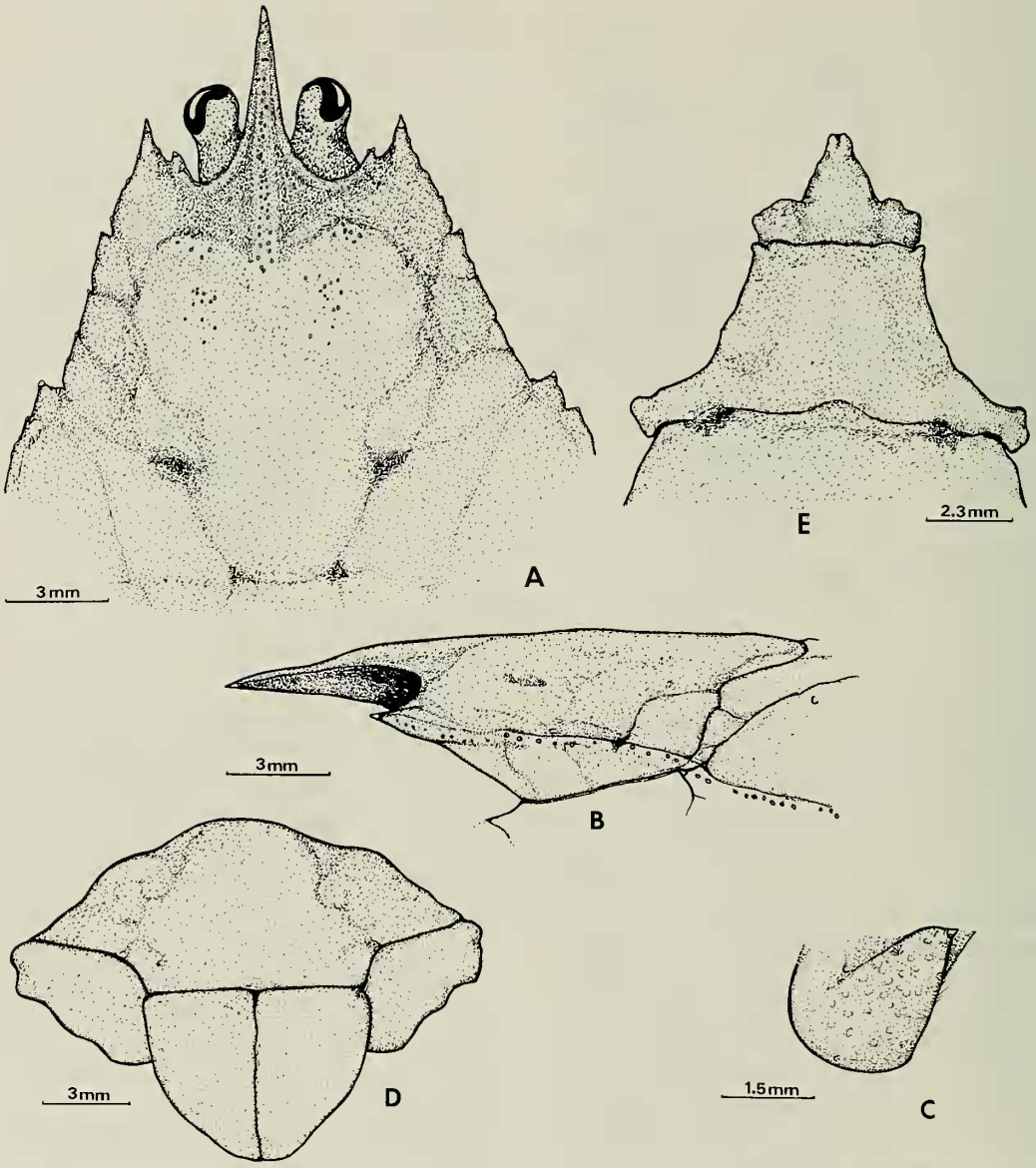

Fig. 2. *Aegla pewenchae,* new species, male holotype. A, precervical carapace in dorsal view; B, same in lateral view; C, anterolateral angle of second abdominal epimeron in lateral view; D, telson plate; E, fourth thoracic sternum.

border of merus of chelipeds with spine at limit between median and distal thirds of article; 2 similar spines at distal third of external lateroventral border of merus of right cheliped; predactylar lobe well defined, specially when seen from ventral face of chelae; midventral line of propodus of chelae with 1 (left) and 3 (right) scales forming row; anterolateral angles of fourth thoracic sternum flattened and little scalloped; external flank of carpus-propodus articular node with spiniform tubercle; punctae on dorsum of carapace coarse, deep; extraorbital sinus comparatively narrow.

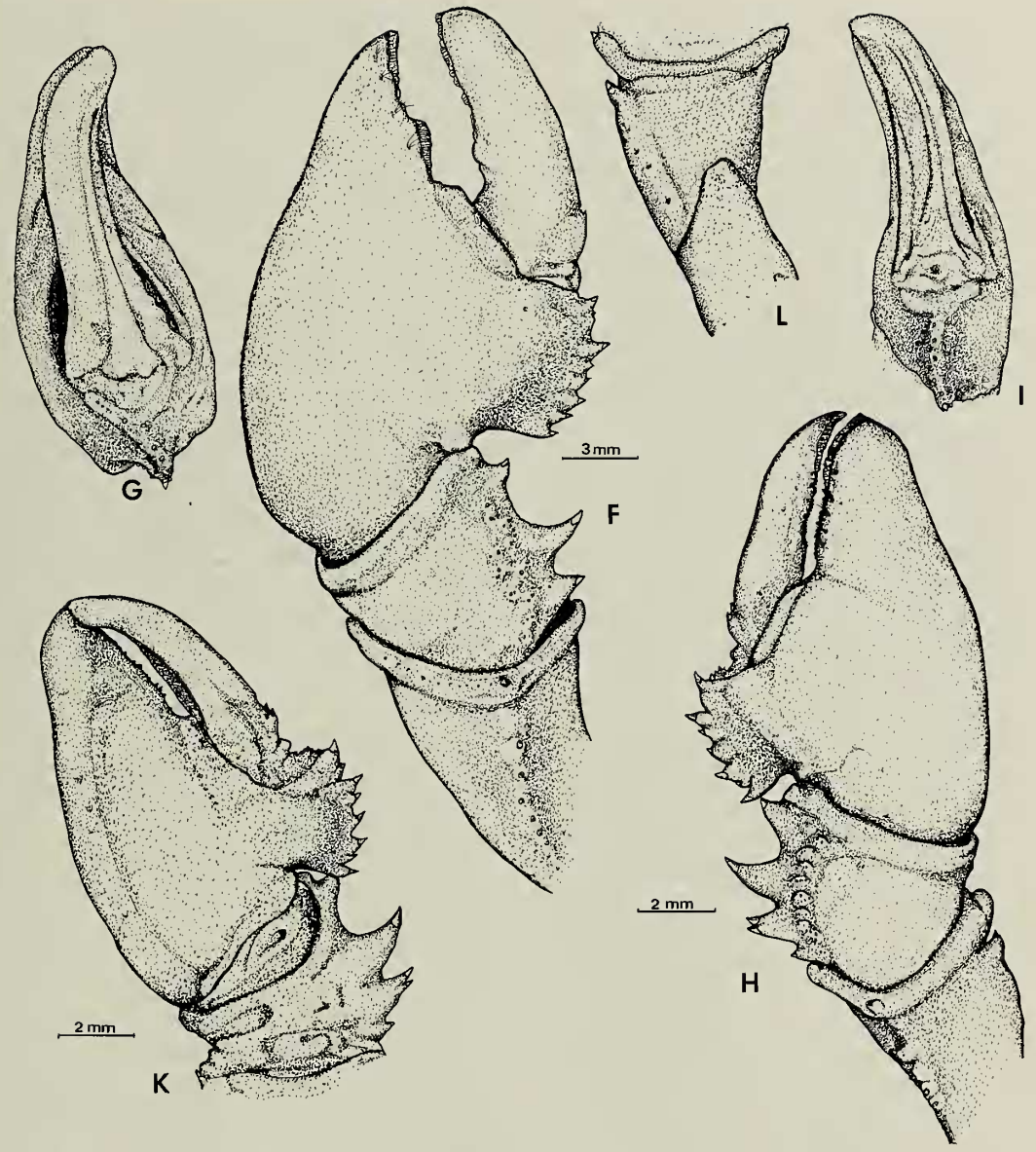

Fig. 3. *Aegla pewenchae,* new species, male holotype (continuation). F, left cheliped in dorsal view; G, left chela seen from dactylus top; H, right cheliped in dorsal view; I, right chela seen from dactylus top; K, same in ventral view; L, ischium and merus of left cheliped in ventral view.

Color.—In life, dorsum of carapace uniform in color varying among specimens from light olive green to dark green; color more intense in furrows and depressions of the carapace, over the frontorostral area and proximodorsal area of chelae. Distal zone of chelae and dactyls of pereiopods yellowish orange; intensity varying greatly among individuals. Scales amber-like, translucent, mounted on top of tubercles and spines ivory white to light yellow changing progressively to general background color of car-

apace toward their bases. Ventral surface white in recently molted individuals, and smokey tan in animals in pre-ecdysis.

In alcohol-preserved specimens, carapace creamy white varying from almost translucent in just molted individuals to yellowish brown with dark brown spots in individuals in pre-ecdysis. Superimposed on general background color, blueish tones mingle with other colors in varying intensity and extension. Dorsum of chelae, gastric, and cardiac areas, and dorsum of second to fourth abdominal segments of P7 and P8 light grayish blue changing to ivory white over branchial areas; center of posterobranchial areas dark rose; same hue, but more intense, stains dactylus of pereiopods of P7.

Etymology.—The name *pewenchae* is the latinized genitive feminine singular form of "pewenche," the aboriginal amerindians inhabiting the upland plateau at the origin of the Bío Bío River.

Distribution.—Table 1 contains the basic data on records of *Aegla* deemed to be conspecific with *A. pewenchae.* Noteworthy is the distribution of *A. pewenchae* which appears closely related to the Andean and pre-Andean stretches of the drainage systems of Rapel, Maule, Itata, Bío Bío, and Imperial rivers. Figure 4 shows the geographic range of *A. pewenchae.* The species is found from the Chimbarongo River, in the drainage basin of the Rapel River, to the Donguil River, tributary of the Toltén River basin. The species is distributed along 480 km of the Chilean territory. In the Bío Bío River basin *A. pewenchae* is found along most of the 380 km of mainstream, including lakes Galletué and Icalma, sources of the Bío Bío River. The absolute upper limit of the species altitude range (1150 m) is found in these lakes, while the lower limit (ca. 100 m) is found at several points along the Chilean Central Valley. In the drainage system of the Toltén River, *A. pewenchae* is only found in a small basin that drains the north-central area of the extra-Andean Valdivian territory.

Remarks.—*Aegla pewenchae* presents such a diverse combination of characters that it is difficult to advance a hypothesis about its phyletic relationships.

Aegla pewenchae resembles *A. rostrata,* from lakes in the Toltén and Valdivia river basins, in having: rostrum narrow, elongate, scarcely troughed; orbits ample; orbital spine well defined, accompanied by second one in subordinate position; palmar crest wide, lightly built, its border dentate to microdenticulate; dorsum of chelae covered by fine scales; and, dorsum of carapace dark green contrasting with marble-white ventral surface. In the Imperial River basin, both species coexist, being difficult to differentiate. *A. pewenchae* differs from *A. rostrata* in lacking denticles on the branchial border of the carapace, and in having the dorsal surface of anterior branchial area convex.

Aegla pewenchae resembles *A. abtao* Schmitt, 1942a, distributed between the Toltén River basin and the Chiloé Island, in having: comparatively short, triangular, scarcely elongate rostrum; male chelae markedly unequal in size, fingers short and robust; dorsum of carapace coarsely punctate; palmar crest thick and narrow, its border nodulate to dentate; spines on inner border of carpus and dorsal ridge of merus of chelae short, thick, and stout. *Aegla pewenchae* differs from *A. abtao* in lacking a dense row of conical scales along rostral borders and thick protuberant scales on the surface of carapace. For comparison with the holotype of *A. pewenchae,* Fig. 5 shows the frontal end and the left chela of a full grown male of *A. abtao.*

Aegla pewenchae is a phenotypically well defined species, associated with the Andean piedmont zone of several Central Chilean river systems. Towards the West its distribution extends to the Central Valley, in general coinciding with the fluvial zone where the mean current velocity allows for the deposition of gravel and sand. These gradually replace the boulders and coarse gravel that predominate in the upper part of the basins where *A. pewenchae* is commonly found.

Table 1.—Records of *A. pewenchae,* new species, in addition to the type series. All samples are deposited in the Collection of the Instituto de Zoología of the Universidad Austral de Chile (IZUA-C). R. stands for river, L. for lake, and J for juveniles (specimens in which the gonopores are not visible).

Collection number	Locality	Latitude/ longitude	Date of collection	Specimens		
				♂	♀	J
503	R. Chimbarongo	34°46′S, 71°08′W	12 Dec. 91	11	15	49
344-A	R. Claro	35°11′S, 71°24′W	14 Feb. 83	14	13	—
393-A	R. Claro	35°25′S, 71°41′W	01 Aug. 87	3	2	—
492-B	R. Lircay	35°25′S, 71°34′W	13 Dec. 91	19	21	2
347-A	R. Maule	35°28′S, 71°57′W	15 Feb. 83	23	25	24
342	R. Longaví	35°37′S, 71°46′W	17 Feb. 83	2	—	—
493-A	R. Putagán	35°46′S, 71°40′W	13 Dec. 91	15	11	32
490	R. Ancoa	35°54′S, 71°30′W	13 Dec. 91	29	22	6
395-A	R. Liguay	35°57′S, 71°41′W	10 Nov. 85	—	4	—
394-A	R. Longaví	36°00′S, 71°43′W	10 Nov. 85	2	—	—
489	R. Longaví	36°14′S, 71°30′W	13 Dec. 91	6	4	33
491-A	R. Cato	36°15′S, 71°41′W	13 Dec. 91	6	7	4
396	R. Cató	36°17′S, 71°40′W	03 Mar. 73	1	2	—
482	R. Ñuble	36°29′S, 71°45′W	07 Dec. 91	14	40	83
480	R. Bustamante	36°34′S, 71°45′W	07 Dec. 91	2	4	—
479	R. Chillán	36°41′S, 71°54′W	07 Dec. 91	8	16	6
478	R. Diguillín	36°54′S, 72°05′W	07 Dec. 91	4	9	2
477	R. Dañicalqui	37°02′S, 72°01′W	07 Dec. 91	10	12	6
481	R. Cholgüán	37°11′S, 71°59′W	06 Dec. 91	16	6	7
470	R. Huepil	37°13′S, 71°57′W	06 Dec. 91	16	14	9
336	R. Bío Bío	37°17′S, 72°43′W	19 Feb. 83	—	8	—
474	R. Laja	37°18′S, 71°58′W	06 Dec. 91	20	15	43
520-B	R. Cholguahue	37°29′S, 72°13′W	10 Oct. 92	10	16	2
472-A	R. Quilleco	37°30′S, 71°59′W	06 Dec. 91	18	22	13
425	R. Bío Bío	37°33′S, 72°35′W	26 Jun. 85	2	7	—
475	R. Duqueco	37°35′S, 72°09′W	06 Dec. 91	19	23	28
427	R. Huequecura	37°41′S, 71°46′W	09 Apr. 87	3	8	1
340	R. Mulchén	37°43′S, 72°15′W	21 Feb. 83	13	10	1
222-A	R. Malleco	37°47′S, 72°41′W	06 Jun. 81	—	4	—
335	R. Queuco	37°51′S, 71°38′W	21 Feb. 83	1	14	—
339	R. Renaico	37°51′S, 72°23′W	21 Feb. 83	3	3	—
334	R. Malleco	37°58′S, 72°26′W	22 Feb. 83	6	16	7
318	R. Traiguén	38°14′S, 72°19′W	23 Dec. 82	9	18	—
323	R. Quino	38°18′S, 72°25′W	23 Dec. 82	41	25	10
317-A	R. Colpí	38°19′S, 72°47′W	22 Dec. 82	5	4	—
324-D	R. Quillén	38°24′S, 72°47′W	22 Dec. 82	7	4	—
326-B	R. Quillén	38°25′S, 72°56′W	22 Dec. 82	3	10	7
266	R. Bío Bío	38°38′S, 71°06′W	04 Feb. 69	6	5	12
186	L. Galletué	38°40′S, 71°19′W	16 Feb. 77	6	11	—
319	R. Bío Bío	38°43′S, 71°09′W	05 Mar. 83	45	31	22
426	R. Bío Bío	38°46′S, 71°14′W	08 Apr. 87	—	16	2
187	L. Icalma	38°48′S, 71°17′W	17 Feb. 77	11	10	1
320-B	R. Quepe	38°51′S, 72°37′W	21 Dec. 82	6	3	—
327-C	R. Donguil	39°06′S, 72°41′W	21 Dec. 82	48	47	66
327-D	R. Donguil	39°06′S, 72°41′W	21 Dec. 82	63	54	46

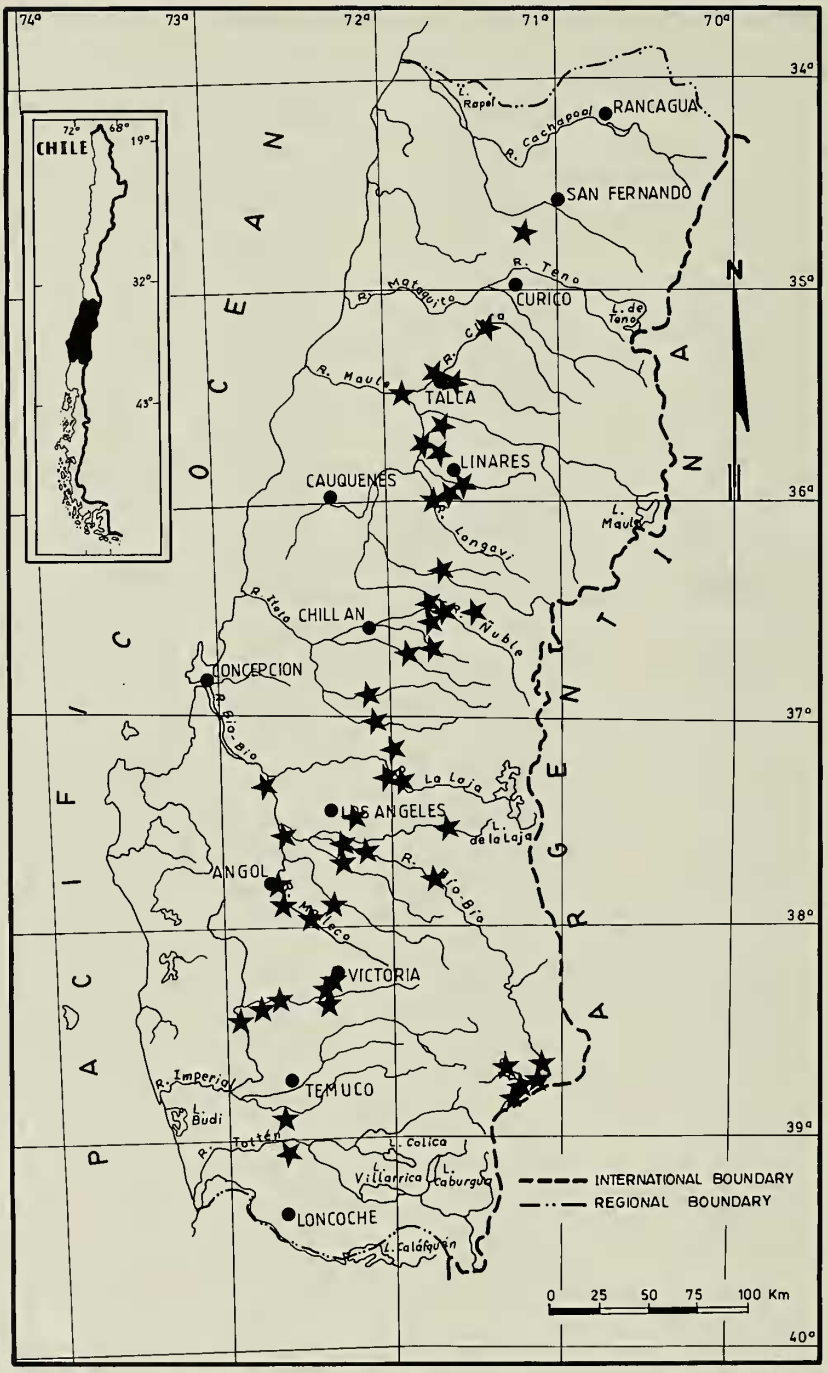

Fig. 4. Geographical range of *A. pewenchae,* new species. Stars indicate sampling localities; black dots, geographical localities.

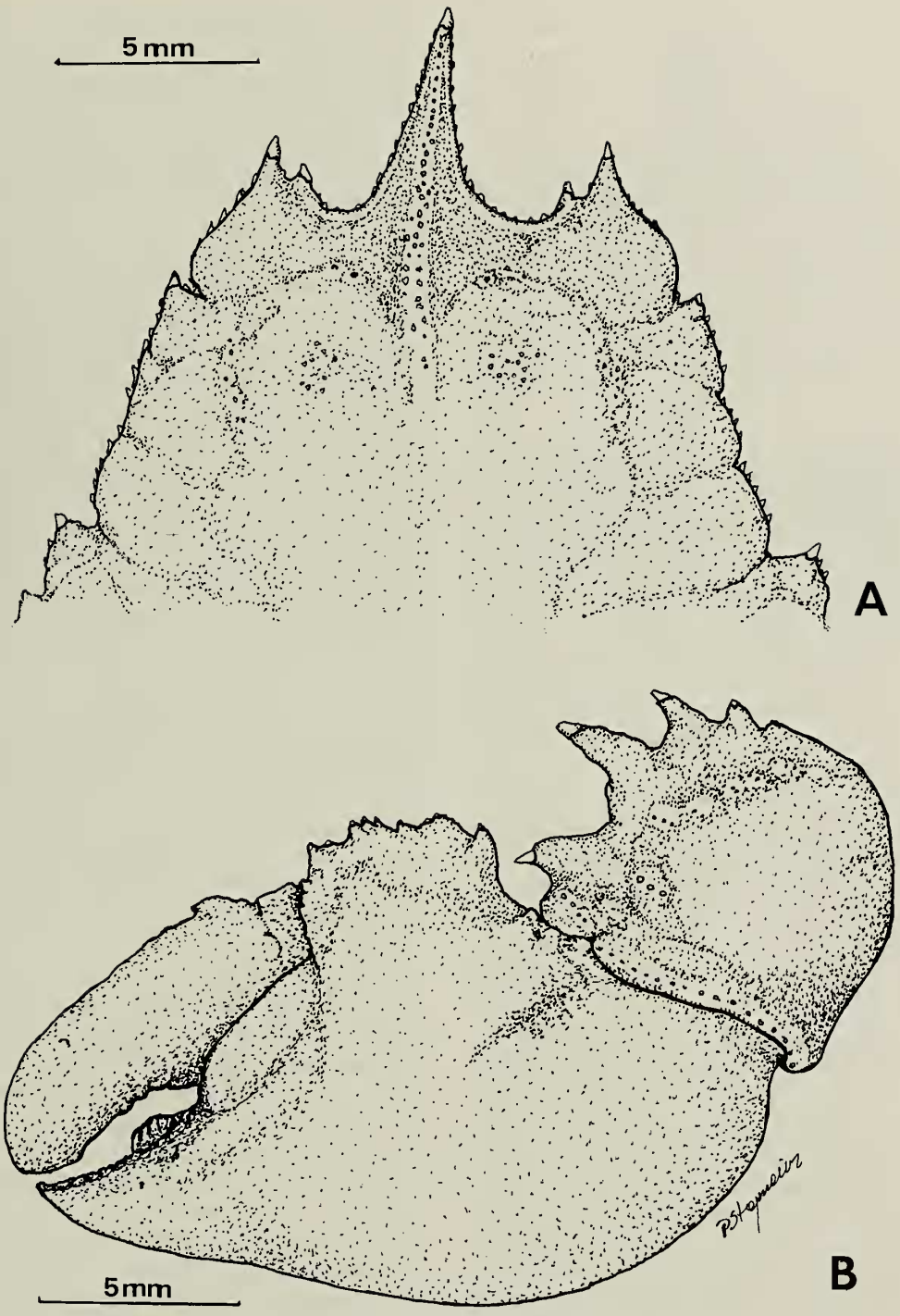

Fig. 5. *Aegla abtao* Schmitt, adult male. A, precervical carapace, dorsal view; B, left cheliped, dorsal view.

Aegla abtao, which replaces *A. pewenchae* to the south of the Toltén River basin, also prefers this biotope (see Jara 1980:93–96; as *A. riolimayana?*). Both species share characters seemingly associated with living in moderate to fast running water environments, i.e., the smooth longer-than-wide oval carapace, the relatively short but narrow acute rostrum, and the marked heterochely of adult males. However, this morphological similarity is not necessarily indicative of common ancestry between the two, and may well be the result of convergence.

Aegla pewenchae, throughout its ample geographical range, shows a relatively wide exophenotypical variation which mostly affects the rostral and precervical morphology and the maximum size of the specimens. However, this species does not show morphological variations related to the lacustrine environment. In *A. rostrata, A. abtao* (Jara 1986a), and *A. denticulata* (Jara 1986a, 1989), the lacustrine environment does seem to induce an overspinulation or spination of the carapace edges.

The latitudinal limits of *A. pewenchae* seem to coincide, more or less, with well defined zoogeographical boundaries. In fact, its present northern limit lies at the Cachapoal-Rapel River system, just to the south of the Maipo River system where two other freshwater decapod crustacean species reach their southern limit, namely, *A. papudo* Schmitt, 1942b (unpublished data), and *Cryphiops caementarius* (Molina 1782) (Bahamonde & López 1963). A third species, the burrowing crayfish *Parastacus pugnax* (Poeppig 1835), reaches its northern limit at the Aconcagua River (Bahamonde & López 1963), just to the north of the Maipo River system. At the Toltén River basin the situation is less clearly defined. Here *A. abtao* reaches its northern limit, while *P. pugnax,* and the trichomycterid fish *Bullockia maldonadoi* (Eigenmann 1927), reach their southern limit (unpublished data).

Morphological Variations

The expression of the taxonomic characters varies among type specimens. In P1 and P5 the rostral apex overreaches corneae ca. two times their length, but in P6 and P7 it overreaches corneae by less than once their length. The orbital spine is comparatively small in the holotype and in P2, P7 and P8, its length being one fourth the length of anterolateral spine of carapace, but in P1 equaling one half the length of anterolateral spine. The first left hepatic lobe of the holotype, P1, P7, and P8 ends in one acute scale, but the right in two; the opposite occurs in P6. The curvature of branchial borders varies in relation to the relative width of carapace; it is minimum in the holotype and maximum in P1. Indentation of the palmar crest is notorious in the holotype, but insignificant in P1, P2, P3 and P5. The predactylar lobe merges completely into the palmar crest of the left chela of P1, P2 and P3, but in P5 it does in both chelae. The ventral face of carpus of chelipeds is smooth in all specimens except in P1 and P3 (left chela), and P5 (right chela), which have a spiniform tubercle. The inner ventral border of merus of chelipeds is smooth, with one distal spine in all specimens except in P1, P4, and P5, which have two, and in P8, which has three.

Table 2 contains the morphometric data of the type series. Measurements were taken with a digital caliper to the nearest 0.1 mm. The morphometric parameters here considered were defined by Jara & López (1981).

The morphological variations most commonly found among the specimens examined, additionally to the type series (Table 1), are related with the rostrum and the frontal area. Figure 6 shows the variation extremes in 29 specimens from Malleco River. A negative correlation between length and width of rostrum, and also between rostral length and frontal width appears among them. Figure 7 records the extreme varia-

tions of the rostro-frontal area in 58 specimens from River Putagán; a negative correlation seems to exist between rostrum length and the upwards inclination of its apex. Figure 5-A1 shows that the external border of the anterolateral lobes may be arquate instead of straightlined as in the type series.

Maximum size variation along the Bío Bío River basin was found to conform to a cline (Fig. 8), between Icalma Lake and Nacimiento. The most obvious environmental factors to which this phenomenon could be related are the thermic regime and the organic productivity along the river. Lake Icalma is situated at 1150 m altitude while Nacimiento is at 130 m. However, no consistent field data are available to support this hypothesis. The graph suggests that the most favorable environmental conditions for *A. pewenchae* are those found in the mesorithral facies of the river (sector B).

Natural History

Field notes characterize *A. pewenchae* as a rheophilic species, consistently associated with rithral or fast running water environments. *Aegla pewenchae* specimens were mostly found in places where water flowed over hard substrates (boulders and stone blocks) with little to no deposition of fine sediments. In the monomictic ultraoligotrophic lakes Galletué and Icalma, *A. pewenchae* was also found on boulders and hard substrate along the shoreline. In these pristine environments, the specimens typically presented clean carapaces. In contrast, when *A. pewenchae* was found in eutrophic biotopes with high fine sediment deposition rates and high benthic primary productivity, i.e., the rivers associated with intensive fruticulture, between Chimbarongo and Talca, the specimens presented dirty carapaces, covered by muddy deposits and epibionts.

The thermic conditions in which *A. pewenchae* was found also present an interesting

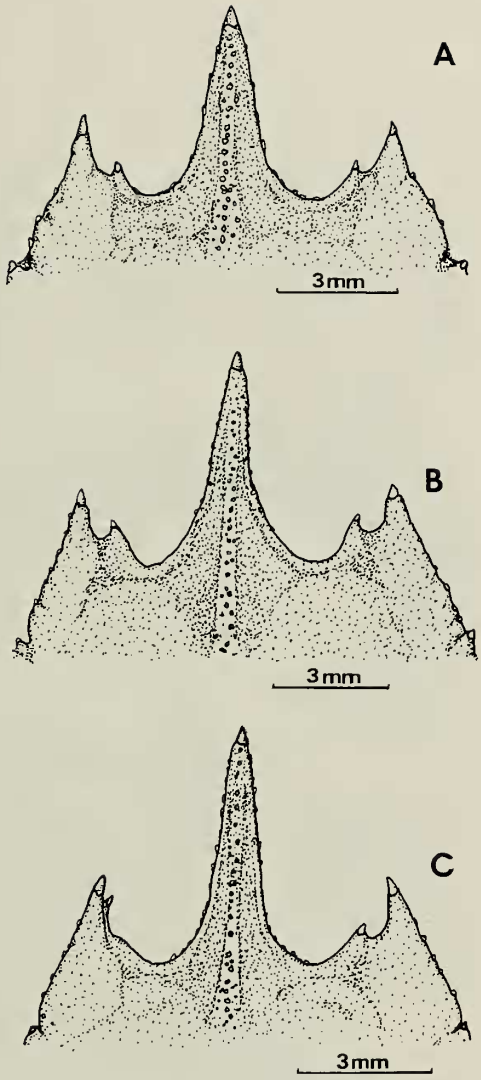

Fig. 6. Morphological variation in *A. pewenchae*, new species. Rostrum and rostral end of three males from Malleco River (IZUA C-334).

contrast. In lakes Icalma and Galletué the thermic regime ranges between 5.5°C for Icalma Lake and 7.5°C for Galletué Lake, in winter, to 19°C and 17.5°C in summer, respectively (Parra et al. 1993). In the rivers of the fruticultural zone, water temperatures rise to approximately 25°C in summer (Jara, field notes).

At least one instance of migratory behav-

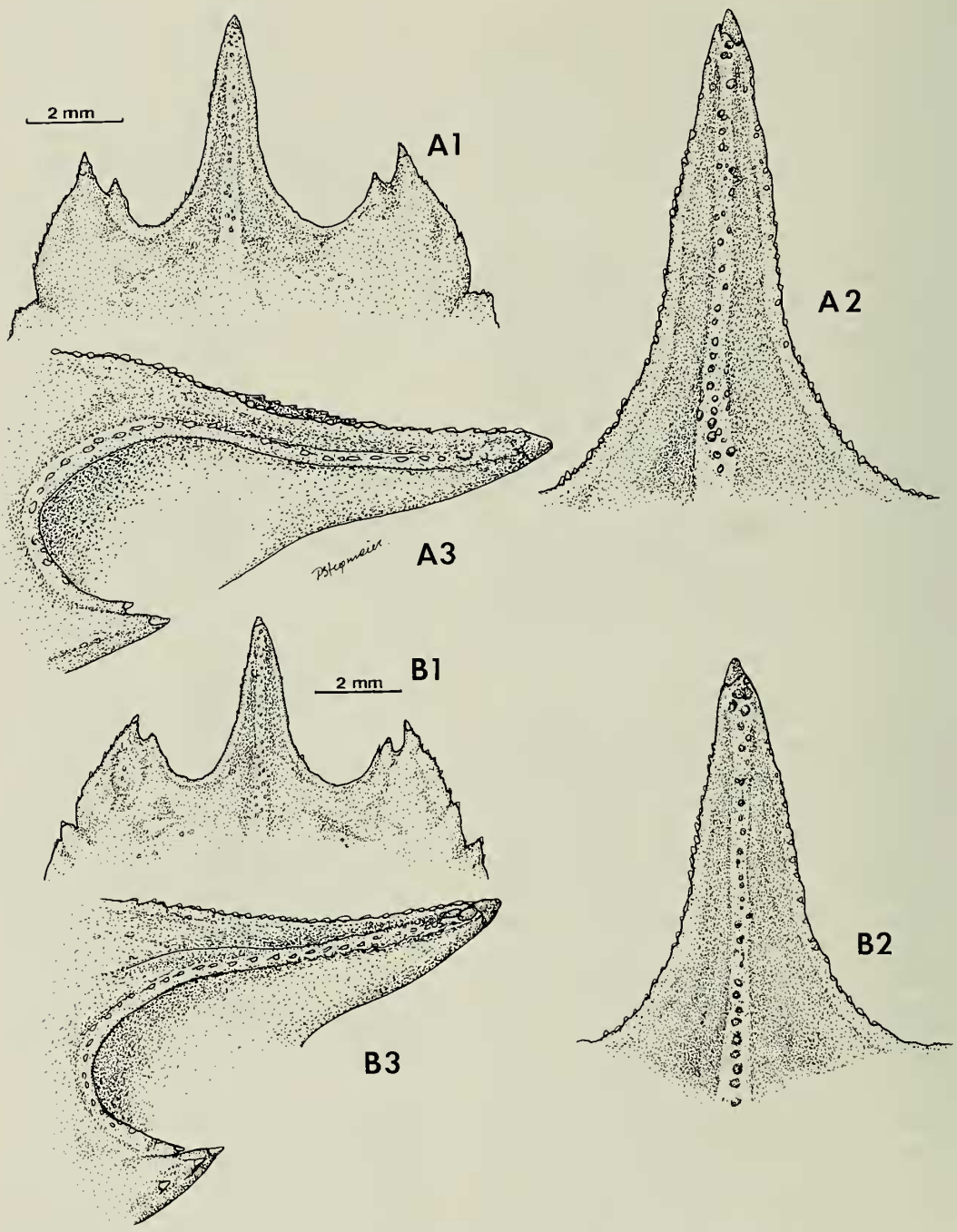

Fig. 7. Morphological variation in *A. pewenchae,* new species. Rostrum and frontal end of two extreme variant males from Putagán River (IZUA C-493). A1 & B1, rostrum and frontal end in dorsal view; A2 & B2, rostrum in dorsal view; A3 & B3, rostrum in lateral view.

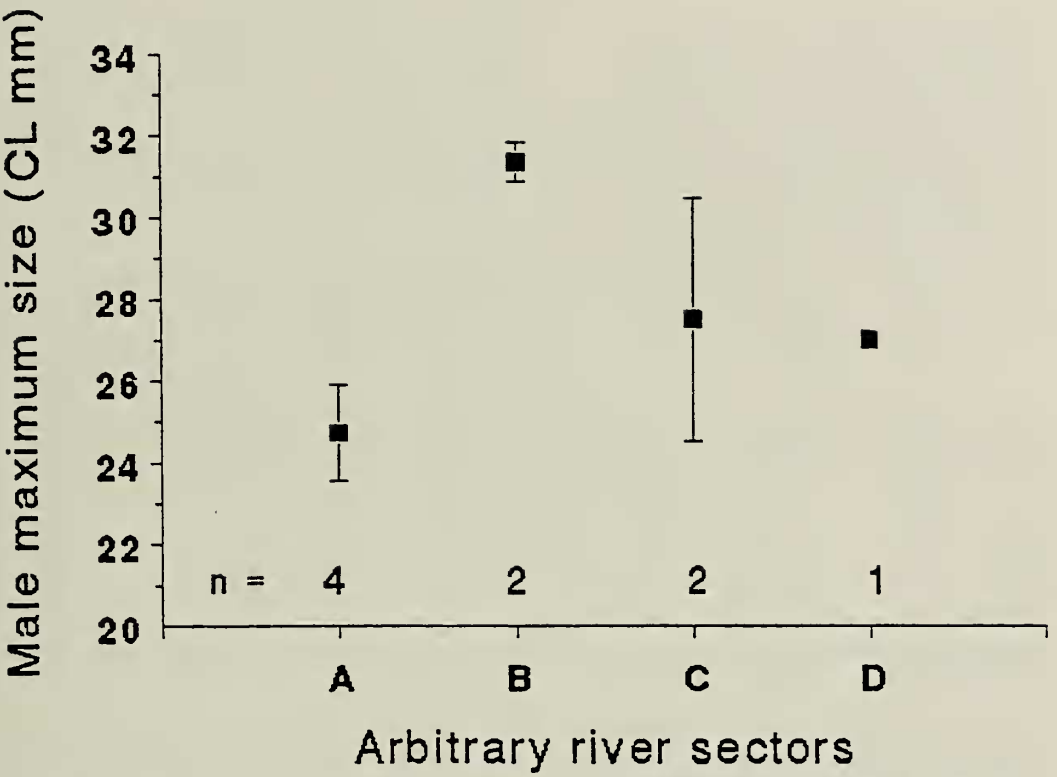

Fig. 8. Variation of male maximum size (CL, carapace length) in *A. pewenchae*, new species, along Bío Bío River mainstream. *n* = number of populations sampled per river sector. In each sample only the size of the largest male was recorded. Sample size ranged between 7 and 98 specimens ($\bar{X}$ = 22.5; SD = 27.2). River sectors are roughly defined as follows: A, upland river in a high mountain steppe-like environment, 0 to 20 km downstream from sources (localities: Icalma, Galletué, Marimenuco and Liucura); B, torrential river in a deep piedmont valley, 115 to 135 km from sources (localities: Queuco and Huequecura); C, lowland moderately fast running river, 185 to 210 km from sources (localities: bridge under highway #5 and Coihue); D, lowland slow running river on sandy substrate, 245 km from sources (locality: La Laja).

ior was observed for this species. On 21 February 1983, a great number of individuals, mostly adult males, were seen migrating upstream along the banks of the Queuco River (Bío Bío River basin). Animals moved at a rate of 600 to 1200 individuals per hour, 24 hours a day; the cause of this migration could not be established.

In relation to the molting period, in the Queuco River, females are known to molt in October. According to field notes, most of the individuals sampled between Los Angeles to the south and Chillán to the north during December 1991 were in advanced pre-ecdysis or in recent post-ecdysis.

No data are available about reproductive biology or trophic niche of *A. pewenchae.*

The benthic community in which *A. pewenchae* is found varies in the number of species and in the abundance of organisms from one river to another. In general, it is composed by rheophilic "clean water" species such as leptophlebiid and baetid ephemeropterans, hydropsychid, rhyacophilid, and sericostomatid trichopterans, gripopterygid and diamphipnoid plecopterans, elmid and psephenid coleopterans, and trichomycterid fishes.

Other species of *Aegla* are occasionally part of these communities. In the rivers

Table 2.—Morphometrics of *A. pewenchae,* new species, type series. All measurements in mm. M = male; F = female; Holo = holotype; Allo = allotype; P1 to P8 = paratypes. CL, carapace length, distance between rostral apex and posterior margin of cephalothorax; RL, rostral length, distance between rostral tip and a transverse line tangent to deepest point of orbits; PCL, precervical length, distance between rostral tip and midpoint of cervical groove; FW, frontal width, distance between tips of anterolateral angles of carapace; PCW, maximum precervical width, distance across third hepatic lobes; CW, maximum carapace width; LCL, left cheliped length; RCL, right cheliped length; L2PL, length of second pereiopod; L2DL, dactylar length of second left pereiopod; L4DL, dactylar length of fourth left pereiopod; TL, telson length. * = rostrum broken; e = estimated.

	Holo	Allo	P1	P2	P3	P4	P5	P6	P7	P8*
Sex	M	F	M	M	M	M	M	F	F	F
CL	25.8	23.8	29.7	26.9	26.8	26.0	25.7	23.9	23.8	24.7e
RL	5.7	4.8	6.1	4.9	5.6	6.2	4.8	4.7	4.0	4.9e
PCL	17.0	15.6	19.5	17.4	17.6	16.9	16.6	15.6	15.5	16.5e
FW	7.5	6.8	8.9	8.5	8.1	7.7	7.3	7.1	6.9	7.8
PCW	13.5	13.0	16.2	14.6	14.6	13.2	14.3	13.0	13.6	13.5
CW	19.9	18.9	24.5	21.4	21.5	19.6	20.5	19.2	19.8	20.4
LCL	35.4	27.9	43.4	40.4	38.2	32.8	36.9	27.9	28.6	29.1
RCL	32.3	27.9	40.4	37.0	35.4	30.6	35.5	27.6	27.5	28.9
L2PL	36.5	32.9	40.7	39.1	39.4	36.7	38.4	34.2	33.4	34.8
L2DL	8.4	7.5	8.8	8.7	8.9	8.0	8.4	7.4	7.6	7.8
L4DL	8.7	7.9	9.7	8.9	—	8.7	8.3	8.2	8.0	8.4
TL	5.3	5.9	5.1	5.3	5.0	4.7	4.8	5.8	5.9	5.9

Claro, Lircay, Maule, Putagán, Liguay, and Cato (Maule River system) and Cholguahue and Quilleco (Bío Bío River system) *A. pewenchae* was collected together with *A.* aff. *laevis talcahuano* Schmitt, 1942b. In rivers Malleco (Bío Bío River system) and Donguil (Toltén River system) it was collected together with *A. denticulata* Nicolet, 1849. In rivers Colpí, Quillén, and Quepe (Imperial River system) and Donguil (Toltén River system) it was collected together with *A. rostrata* Jara, 1977 (fluvial form), and in the river Cholchol (Imperial River system) it was collected with *A. spectabilis* Jara, 1986b.

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Instituto de Zoología, Universidad Austral de Chile, Casilla 567, Valdivia, Chile.